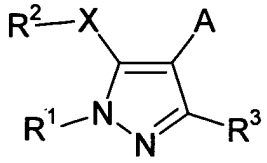
Claims

1. A method for the treatment of human immunodeficiency virus (HIV) infection comprising administering a therapeutically effective amount of a compound of the formula



wherein

R^1 is optionally substituted C_{1-12}-alkyl, C_{3-8}-cycloalkyl, acyl, C_{1-4}-alkylsulfonyl, optionally substituted phenylsulfonyl, aryl, heterocyclyl or C_{1-4}-alkyl substituted with optionally substituted phenyl;

R^2 is aryl;

R^3 is C_{1-12}-alkyl or C_{1-4}-alkoxy-C_{1-4}-alkyl;

A isis a group selected from CH_2-(aryl-C_{1-4}-alkylamino), CH_2-(aryl-C_{1-4}-alkoxy), CH_2-(heterocyclyl-C_{1-4}-alkoxy), C_{1-4}-alkyl substituted with aryl or with heterocyclyl; or

A isis a group of formula CH_2-U-heterocyclyl,

wherein U is O, S or NR", wherein R" is hydrogen or C_{1-4}-alkyl; or

A isis a group of formula CH(V)Z,

wherein V is OH or F, and

wherein Z is aryl or heterocyclyl; or

A isis a group of formula CH=CHW,

wherein W is aryl or heterocyclyl;

X is S or O;

or the pharmaceutically acceptable hydrolyzable esters or ethers thereof, or the pharmaceutically acceptable salts thereof.

2. The method of claim 1 wherein

R^1 is optionally substituted C_{1-12}-alkyl, C_{3-8}-cycloalkyl, acyl, C_{1-4}-alkylsulfonyl, optionally substituted phenylsulfonyl, aryl, heterocyclyl or C_{1-4}-alkyl substituted with optionally substituted phenyl, wherein the substituted C_{1-12}-alkyl is substituted with 1-5 substituents selected from fluorine, chlorine and bromine, and wherein the substituted phenyl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine and cyano;

R^2 is optionally substituted phenyl, wherein the substituted phenyl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano and nitro;

A is a group selected from CH_2-(aryl-C_{1-4}-alkylamino), CH_2-(aryl-C_{1-4}-alkoxy), CH_2-(heterocyclyl-C_{1-4}-alkoxy), C_{1-4}-alkyl substituted with aryl or heterocyclyl, wherein the aryl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl and the heterocyclyl is substituted with 1-4 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A is a group of formula CH_2-U-heterocyclyl,
wherein the heterocyclyl is optionally substituted with 1-4 substituents selected from C_{1-4}-alkyl, fluorine, chlorine, bromine, cyano, nitro and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A is a group of formula CH(V)Z,
wherein V is OH or F, and
wherein Z is aryl or heterocyclyl; or

A is a group of formula CH=CHW,
wherein W is unsubstituted aryl, unsubstituted heterocyclyl, aryl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, cyano, fluorine,

chlorine and bromine, or heterocyclyl substituted with 1-4 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, cyano, fluorine, chlorine and bromine.

3. The method of claim 1 wherein

R^1 is optionally substituted C_{1-12}-alkyl, C_{3-8}-cycloalkyl, aryl, heterocyclyl or C_{1-4}-alkyl substituted with phenyl,wherein the C_{1-12}-alkyl is substituted with 1-5 fluorine substituents;

R^2 is phenyl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, fluorine, chlorine, bromine, cyano and nitro;

A is a group selected from CH_2-(aryl-C_{1-4}-alkoxy), CH_2-(heterocyclyl-C_{1-4}-alkoxy), C_{1-4}-alkyl substituted with optionally substituted phenyl or heterocyclyl,wherein the phenyl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', and the heterocyclyl is substituted with 1-4 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A is a group of formula CH_2-U-heterocyclyl,

wherein the heterocyclyl is optionally substituted with 1-4 substituents selected from C_{1-4}-alkyl, fluorine, chlorine, bromine, cyano, nitro and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A is a group of formula CH(V)heterocyclyl,

wherein V represents OH or F; or

A is a group of formula CH=CHW,

wherein W is aryl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, cyano, fluorine, chlorine and bromine.

4. The method according to claim 1 wherein

R^1 is optionally substituted C_{1-7}-alkyl, C_{3-8}-cycloalkyl, aryl, heterocyclyl or C_{1-4}-alkyl substituted with phenyl,wherein the C_{1-7}-alkyl is substituted with 1-3 fluorine substituents;

R^2 is phenyl substituted with 1-3 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, fluorine, chlorine, bromine, cyano and nitro;

R^3 is C_{1-7}-alkyl or C_{1-4}-alkoxy-C_{1-2}-alkyl;

A is a group selected from CH_2-(phenyl-C_{1-2}-alkoxy), CH_2-(pyridyl-C_{1-2}-alkoxy), C_{1-2}-alkyl substituted with optionally substituted phenyl or with heterocyclyl,wherein the phenyl is substituted with 1-3 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', and the heterocyclyl is substituted with 1-2 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A is a group of formula CH_2=U-heterocyclyl,

wherein heterocyclyl is optionally substituted with 1-2 substituents selected from C_{1-4}-alkyl, fluorine, chlorine, bromine, cyano, nitro and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A is a group of formula CH(F)heterocyclyl.

5. The method according to claim 1 wherein
R^1 is optionally substituted C_{1-7}-alkyl, C_{3-6}-cycloalkyl, phenyl, pyridyl or benzyl,wherein the C_{1-7}-alkyl is substituted with 1-3 fluorine substituents;

R^2 is phenyl substituted with 1-3 substituents selected from C_{1-2}-alkyl, fluorine, chlorine and cyano;

R^3 is C_{1-7}-alkyl or C_{1-2}-alkoxy-C_{1-2}-alkyl;

A is a group selected from CH_2-(phenyl-C_{1-2}-alkoxy), CH_2-(pyridyl-C_{1-2}-alkoxy), C_{1-2}-alkyl substituted with optionally substituted phenyl or with heterocyclyl,wherein the phenyl is substituted with 1-3 substituents selected from C_{1-2}-alkyl, C_{1-2}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-2}-alkyl and NRR', and the heterocyclyl is substituted with 1-2 substituents selected from C_{1-2}-alkyl, C_{1-2}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-2}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-2}-alkyl; or

A is a group of formula CH(F)heterocyclyl.

6. The method according to claim 1 wherein
R^1 is C_{1-7}-alkyl;

R^2 is phenyl substituted with 1-3 substituents selected from chlorine and cyano;

R^3 is C_{1-7}-alkyl; and

A is a group selected from CH_2-(phenyl-C_{1-2}-alkoxy), CH_2-(pyridyl-C_{1-2}-alkoxy), C_{1-2}-alkyl substituted with heterocyclyl,wherein the heterocyclyl is substituted with 1-2 substituents selected from C_{1-2}-alkyl, C_{1-2}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-2}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-2}-alkyl.

7. The method according to claim 1 wherein
R^1 is C_{1-4}-alkyl;

R^2 is phenyl substituted with 1-3 chlorine substituents;

R^3 is C_{1-4}-alkyl; and

A is a group C_{1-2}-alkyl substituted with heterocyclyl,wherein the heterocyclyl is substituted with 1-2 substituents selected from C_{1-2}-alkyl and chlorine.

8. The method according to claim 1 wherein

R^1 is ethyl or iso-propyl;

R^2 is 3,5-dichlorophenyl;

R^3 is methyl; and

A is a group C_{1-2}-alkyl substituted with heterocyclyl,wherein the heterocyclyl is substituted with 1-2 selected from C_{1-2}-alkyl and chlorine; and

X is S.

9. The method according to claim 1 wherein X is S.

10. The method according to claim 1 wherein the compound is

5-(3-Chlorophenylthio)-3-methoxymethyl-1-methyl-4-styryl-1H-pyrazole,

(E)-5-(3,5-Dichlorophenylthio)-3-(methoxymethyl)-1-phenyl-4-styryl-1H-pyrazole,

5-(3,5-Dichlorophenylthio)-3-methyl-1-phenyl-4-styryl-1H-pyrazole,

4-Benzyl-5-(3,5-dichlorophenylthio)-3-methyl-1-phenyl-1H-pyrazole,

5-(3,5-Dichlorophenylthio)-3-methyl-4-(2-phenylethyl)-1-phenyl-1H-pyrazole,

5-(3,5-Dichlorophenylthio)-3-(methoxymethyl)-1-phenyl-4-(2-phenylethyl)-1H-pyrazole,

[5-(3,5-Dichlorophenylthio)-3-(methoxymethyl)-1-methyl-1H-pyrazol-4-yl]-phenyl-methanol,

[5-(3,5-Dichlorophenylthio)-3-methyl- 1-phenyl-1H-pyrazol-4-yl]-phenyl-methanol,

[5-(3,5-Dichlorophenylthio)-1-ethyl-3-(methoxymethyl)-1H-pyrazol-4-yl]-phenyl-methanol,

4-Benzyl-5-(3,5-dichlorophenylthio)-1-ethyl-3-(methoxymethyl)-1H-pyrazole,

4-Benzyl-5-(3,5-dichloro-phenylthio)-3-methoxymethyl-1-methyl-1H-pyrazole,

5-(3,5-Dichlorophenylthio)-3-methyl-alpha(RS)-phenyl-1H-pyrazole-4-methanol,

1,4-Dibenzyl-5-(3,5-dichlorophenylthio)-3-methyl-1H-pyrazole,

4-Benzyl-5-(3,5-dichloro-phenylthio)-1-isopropyl-3-methyl-1H-pyrazole,

4-Benzyl-5-(3,5-dichlorophenylthio)-1-ethyl-3-methyl-1H-pyrazole,

4-Benzyl-1-sec-butyl-5-(3,5-dichlorophenylthio)-3-methyl-1H-pyrazole,
4-[5-(3,5-Dichlorophenylthio)-3-methyl-1-phenyl-4-[(4-pyridyl)methyl]-1H-pyrazole,
5-(3,5-Dichlorophenylthio)-1-ethyl-3-methyl-4-(2-phenylethyl)-1H-pyrazole,
4-[5-(3,5-Dichlorophenylthio)-1-ethyl-3-methyl-[(4-pyridyl)methyl]-1H-pyrazole,
4-Benzyl-1-ethyl-5-(4-methoxyphenoxy)-3-methyl-1H-pyrazole,
4-Benzyl-1-cyclopentyl-5-(3,5-dichlorophenylthio)-3-methyl-1H-pyrazole,
4-Benzyl-1-cyclohexyl-5-(3,5-dichlorophenylthio)-3-methyl-1H-pyrazole,
4-Benzyl-5-(3,5-dichlorophenylthio)-1-isobutyl-3-methyl-1H-pyrazole,
4-Benzyloxymethyl-5-(3,5-dichlorophenylthio)-3-methyl-1-phenyl-1H-pyrazole,
2-[4-Benzyl-5-(3,5-dichloro-phenylsulfanyl)-3-methyl-pyrazol-1-yl]-pyridine,
4-Benzyl-3-methyl-5-(3-nitro-phenoxy)-1-phenyl-1H-pyrazole,
3-(4-Benzyl-5-methyl-2-phenyl-2H-pyrazol-3-yloxy)-benzonitrile,
2-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
4-Benzyloxymethyl-5-(3,5-dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazole,
2-[5-(3,5-Dimethyl-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
2-[5-(3-Chloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
2-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethoxy]-pyridine,
3-Chloro-5-[5-(3,5-dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethoxy]-pyridine,
1-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-1H-pyridin-2-one,
3-[5-(3,5-Dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
3-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-3H-pyrimidin-4-one,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethoxymethyl]-pyridine,
3-(4-Benzyl-5-methyl-2-phenyl-2H-pyrazol-3-ylsulfanyl)-benzonitrile,
3-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-yl]-pyridin-2-yl-methanol,
[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-yl]-pyridin-4-yl-methanol,

4-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethylsulfanyl]-pyridine,
4-Benzyl-5-(3,5-dichloro-phenylsulfanyl)-3-methyl-1-(2,2,2-trifluoro-ethyl)-1H-pyrazole,
4-{[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-yl]-fluoro-methyl}-pyridine,
5-[5-(3,5-Dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethoxy]-2-methyl-pyridine,
5-Bromo-4-[5-(3,5-dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyrimidine,
3-[5-(3,5-Dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethoxy]-2-nitro-pyridine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethylsulfanyl]-pyridine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethoxy]-pyridine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyrimidine,
3-[5-(3,5-Dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethoxy]-pyridin-2-ylamine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethoxy]-pyridine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-3-fluoro-pyridine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethyl]-3-fluoro-pyridine,
3-Chloro-4-[5-(3,5-dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
3-Chloro-4-[5-(3,5-dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethoxy]-6-methyl-pyrimidin-2-ylamine,
3-Bromo-5-[5-(3,5-dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,

[5-(3,5-Dichloro-phenylsulfanyl)-1-ethyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridin-3-yl-amine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-benzonitrile,
2-Chloro-4-[5-(3,5-dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
2-Chloro-4-[5-(3,5-dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-6-methyl-pyridine,
2-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyrazine,
4-[5-(3-Chloro-5-methoxy-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-2-methoxy-pyridine,
3-[[5-(3,5-Dichlorophenylthio)-3-methyl-1-phenyl-1H-pyrazol-4-yl]methyl]-2-(methylthio)pyridine,
4-[5-(3-Bromo-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-3-chloro-pyridine,
3-Chloro-4-(1-isopropyl-3-methyl-5-m-tolylsulfanyl-1H-pyrazol-4-ylmethyl)-pyridine,
3-Chloro-4-[5-(3,5-dimethyl-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine,
4-[5-(3-Bromo-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-3-fluoro-pyridine,
3-Fluoro-4-(1-isopropyl-3-methyl-5-m-tolylsulfanyl-1H-pyrazol-4-ylmethyl)-pyridine,
4-[5-(3,5-Dimethyl-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-3-fluoro-pyridine,
5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-4-thiophen-3-ylmethyl-1H-pyrazole,
{3-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-phenyl}-dimethyl-amine,
4-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-3,5-dimethyl-isoxazole, or
6-[5-(3,5-Dichloro-phenylsulfanyl)-1-isopropyl-3-methyl-1H-pyrazol-4-ylmethyl]-pyridine-2-carbonitrile.

11. The method according to claim 1 wherein

R^1 is C_{1-12}-alkyl, C_{3-8}-cycloalkyl, acyl, C_{1-4}-alkylsulfonyl, optionally substituted phenylsulfonyl, aryl or C_{1-4}-alkyl substituted with optionally substituted phenyl,wherein the substituted phenyl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine and bromine;

R^2 is aryl or optionally substituted phenyl,wherein the substituted phenyl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine and bromine;
R^3 is C_{1-12}-alkyl or C_{1-4}-alkoxy-C_{1-4}-alkyl;

A is a group selected from CH_2-(aryl-C_{1-4}-alkylamino), CH_2-(aryl-C_{1-4}-alkoxy), C_{1-4}-alkyl substituted with aryl or with heterocyclyl,wherein the aryl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine and bromine and the heterocyclyl is substituted with 1-4 substituents and the substituents are selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine and bromine; or

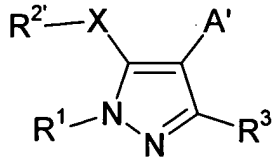
A is a group of formula CH(OH)Z,

wherein Z is aryl or heterocyclyl; or

A is a group of formula CH=CHW,

wherein W is aryl or heterocyclyl,wherein the aryl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine and bromine and the heterocyclyl is substituted with 1-4 substituents .

12. A compound of the formula



wherein
R^1 is optionally substituted C_{1-12}-alkyl, C_{3-8}-cycloalkyl, acyl, C_{1-4}-alkylsulfonyl, optionally substituted phenylsulfonyl, aryl, heterocyclyl or C_{1-4}-alkyl substituted with phenyl,wherein the substituted C_{1-12}-alkyl is substituted with 1-5 substituents selected

from fluorine, chlorine and bromine, and the substituted phenyl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine and cyano;

$R^{2'}$ is phenyl or phenyl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano and nitro;

R^3 is C_{1-12}-alkyl or C_{1-4}-alkoxy-C_{1-4}-alkyl;

A' is a group selected from CH_2-(aryl-C_{1-4}-alkylamino), CH_2-(aryl-C_{1-4}-alkoxy), CH_2-(heterocyclyl-C_{1-4}-alkoxy), C_{1-4}-alkyl substituted with unsubstituted aryl, aryl substitutedwith 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', unsubstituted 4-pyridyl, or 4-pyridyl substituted with 1-4 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A' is a group of formula CH_2-U-heterocyclyl,

wherein U is O, S or NR", wherein R" is hydrogen or C_{1-4}-alkyl, and

wherein heterocyclyl is optionally substituted with 1-4 substituents selected from C_{1-4}-alkyl, fluorine, chlorine, bromine, cyano, nitro and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A' is a group of formula CH(OH)aryl; or

A' is a group of formula CH=CHW

wherein W is unsubstituted aryl, aryl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, cyano, fluorine, chlorine and bromine, unsubstituted heterocyclyl, or heterocyclyl substituted with 1-4 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, cyano, fluorine, chlorine and bromine;
X is S or O;
or the pharmaceutically acceptable hydrolyzable esters or ethers thereof or pharmaceutically acceptable salts thereof.

13. The compound according to claim 12 wherein

R^1 is optionally substituted C_{1-12}-alkyl, C_{3-8}-cycloalkyl, aryl, heterocyclyl or C_{1-4}-alkyl substituted with phenyl,wherein the substituted C_{1-12}-alkyl is substituted with 1-5 fluorine substituents;

$R^{2'}$ is phenyl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, fluorine, chlorine, bromine, cyano and nitro;

A' is a group selected from CH_2-(phenyl-C_{1-4}-alkoxy), CH_2-(pyridyl-C_{1-4}-alkoxy), C_{1-4}-alkyl substituted with unsubstituted aryl, aryl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', unsubstituted 4-pyridyl or 4-pyridyl substituted with 1-4 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A' is a group of formula CH_2-U-heterocyclyl,

wherein U is O, S or NR", wherein R" is hydrogen or C_{1-4}-alkyl, and

wherein heterocyclyl is optionally substituted with 1-4 substituents selected from C_{1-4}-alkyl, fluorine, chlorine, bromine, cyano, nitro and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A' is a group of formula CH(OH)aryl; or

A' is a group of formula CH=CHW

wherein W is aryl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, cyano, fluorine, chlorine and bromine;

X is S or O.

14. in the compound according to claim 12 wherein

R^1 is optionally substituted C_{1-7}-alkyl, C_{3-8}-cycloalkyl, aryl, heterocyclyl or C_{1-4}-alkyl substituted with optionally substituted phenyl,wherein the substituted C_{1-7}-alkyl is substituted with 1-3 fluorine substituents;

$R^{2'}$ is phenyl substituted with 1-3 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, fluorine, chlorine, bromine, cyano and nitro;

R^3 is C_{1-7}-alkyl or C_{1-4}-alkoxy-C_{1-2}-alkyl;

A' is a group selected from CH_2-(phenyl-C_{1-2}-alkoxy), CH_2-(pyridyl-C_{1-2}-alkoxy), methyl substituted with unsubstituted phenyl, phenyl substituted with 1-3 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', unsubstituted 4-pyridyl or 4-pyridyl substituted with 1-2 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A' is a group of formula CH_2-U-heterocyclyl,

wherein U is O, S or NR", wherein R" is hydrogen or C_{1-4}-alkyl, and

wherein heterocyclyl is optionally substituted with 1-2 substituents selected from C_{1-4}-alkyl, fluorine, chlorine, bromine, cyano, nitro and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl;

X is S or O.

15. The compounds according to claim 12 wherein

R^1 is optionally substituted C_{1-7}-alkyl, C_{3-8}-cycloalkyl, phenyl, pyridyl or benzyl,wherein the substituted C_{1-7}-alkyl is substituted with 1-3 fluorine substituents;

$R^{2'}$ is phenyl substituted with 1-3 substituents selected from C_{1-2}-alkyl, fluorine, chlorine and cyano;

R^3 is C_{1-7}-alkyl or C_{1-2}-alkoxy-C_{1-2}-alkyl; and

A' is a group selected from CH_2-(phenyl-C_{1-2}-alkoxy), CH_2-(pyridyl-C_{1-2}-alkoxy), methyl substituted with unsubstituted phenyl, phenyl substituted with 1-3 substituents selected from C_{1-2}-alkyl, C_{1-2}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-2}-alkyl and NRR', unsubstituted 4-pyridyl, or 4-pyridyl substituted with 1-2 substituents selected from C_{1-2}-alkyl, C_{1-2}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-2}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-2}-alkyl;
X is S or O.

16. of the compound according to claim 12 wherein
R^1 is C_{1-7}-alkyl;

$R^{2'}$ is phenyl substituted with 1-3 substituents selected from chlorine and cyano;

R^3 is C_{1-7}-alkyl;

A' is a group selected from CH_2-(aryl-C_{1-2}-alkoxy), CH_2-(heterocyclyl-C_{1-2}-alkoxy), methyl substituted with optionally substituted 4-pyridyl,wherein the substituted 4-pyridyl is substituted with 1-2 substituents selected from C_{1-2}-alkyl, C_{1-2}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-2}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-2}-alkyl; and

X is S or O.

17. The compound according to claim 12 wherein
R^1 is C_{1-4}-alkyl;

$R^{2'}$ is phenyl substituted with 1-3 chlorine substituents;

R^3 is C_{1-4}-alkyl;

A' is methyl substituted with optionally substituted 4-pyridyl,wherein the substituted 4-pyridyl is substituted with 1-2 substituents selected from C_{1-2}-alkyl and chlorine; and

X is S or O.

18. The compound according to claim 12 wherein

A' is a group selected from CH_2-(aryl-C_{1-4}-alkylamino), CH_2-(aryl-C_{1-4}-alkoxy), CH_2-(heterocyclyl-C_{1-4}-alkoxy), C_{1-4}-alkyl substituted with optionally substituted aryl,wherein the substituted aryl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine, bromine, cyano, S-C_{1-4}-alkyl and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A' is a group of formula CH_2-U-heterocyclyl,

wherein U is O, S or NR", wherein R" is hydrogen or C_{1-4}-alkyl, and

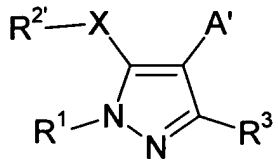
wherein heterocyclyl is optionally substituted with 1-4 substituents selected from C_{1-4}-alkyl, fluorine, chlorine, bromine, cyano, nitro and NRR', wherein R and R' are independently of each other hydrogen or C_{1-4}-alkyl; or

A' is a group of formula CH(OH)aryl; or

A' is a group of formula CH=CHW

wherein W is unsubstituted aryl, aryl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, cyano, fluorine, chlorine and bromine, unsubstituted heterocyclyl, or heterocyclyl substituted with 1-4 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, cyano, fluorine, chlorine and bromine;
X is S or O;
or the pharmaceutically acceptable hydrolyzable esters or ethers thereof, and pharmaceutically acceptable salts thereof.

19. A compounds according to the formula



wherein

R^1 is C_{1-12}-alkyl, C_{3-8}-cycloalkyl, acyl, C_{1-4}-alkylsulfonyl, optionally substituted phenylsulfonyl, aryl or C_{1-4}-alkyl substituted with phenylor with phenyl is substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine or bromine;

$R^{2'}$ is phenyl or phenyl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine or bromine;

R^3 is C_{1-12}-alkyl or C_{1-4}-alkoxy-C_{1-4}-alkyl;

A' is a group selected from CH_2-(aryl-C_{1-4}-alkylamino), CH_2-(aryl-C_{1-4}-alkoxy), C_{1-4}-alkyl substituted with unsubstituted aryl, aryl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine and bromine, unsubstituted 4-pyridyl, or 4-pyridyl substituted with 1-4 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine and bromine; or

A' is a group of formula CH(OH)Z'

wherein Z' is aryl; or

A' is a group of formula CH=CHW

wherein W is unsubstituted aryl,aryl substituted with 1-5 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine and bromine, unsubstituted heterocyclyl, or heterocyclyl substituted with 1-4 substituents selected from C_{1-4}-alkyl, C_{1-4}-alkoxy, hydroxy, fluorine, chlorine and bromine;

X is S or O;

or the pharmaceutically acceptable hydrolyzable esters or ethers thereof, and pharmaceutically acceptable salts thereof.

20. The compound according to claim 12 wherein
X is S.

21. The compound according to claim 19 wherein X is S.

22. A pharmaceutical composition comprising a pharmaceutically effective amount of a compound according to claim 1 and a pharmaceutically inert carrier.

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